Environmental Science

INHIBITION OF GERMINATION BY GARLIC MUSTARD (*ALLIARIA PETIOLATA*) EXTRACTS

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Garlic mustard (*Alliaria petiolata*) from the mustard family, Brassicaceae, is an invasive species that has aggressively invaded numerous forested natural areas and is capable of dominating large vicinities. It is a severe threat to many natural areas because of its ability to grow to the exclusion of other herbaceous species. Hexane, dichloromethane, and *n*-butanol extracts were tested at 50 mg/ml and 7.14 mg/ml for inhibitory activity against radish and lettuce seed germination. The CH_2Cl_2 extracts from the roots and dried plant tops resulted in significant inhibition. Column chromatography of the CH_2Cl_2 extract resulted in 27 fractions. High levels of seed toxicity were reported from fractions 6-10 with concentrations as low as 1.14 mg/ml. Investigating the potential allelopathy of garlic mustard can lead to advancements in regulating its destruction of natural areas and crops, and contribute to the advancement of allelochemical and agricultural knowledge.